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NEWS 23 Aug 26 Sequence searching in REGISTRY enhanced  
  
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AND CURRENT DISCOVER FILE IS DATED 05 FEBRUARY 2002  
  
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=> guar  
L1 6984 GUAR

=> guar?  
L2 28370 GUAR?

=> (iron or fe)(2a)ore?  
746680 IRON  
728578 FE  
229193 ORE?  
L3 41537 (IRON OR FE) (2A)ORE?

=> citric?  
L4 63789 CITRIC?

=> l1 and l2 and l3  
L5 20 L1 AND L2 AND L3

=> d bib ab 1-20

L5 ANSWER 1 OF 20 CAPLUS COPYRIGHT 2002 ACS  
AN 2002:90272 CAPLUS  
DN 136:121355  
TI Polymeric binders with chelating additives for pelletizing of **iron**  
-ore concentrate powders having reactive impurities  
IN Steeghs, Henricus Renier Gerardus; Schmitt, James John  
PA Akzo Nobel N.V., Neth.  
SO PCT Int. Appl., 27 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002008473	A2	20020131	WO 2001-EP8457	20010720
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,				

RO, RU, SD, SE, SG, SK, SL, TJ, TM, TR, TT, TZ, , UG, UZ,  
VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,  
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,  
BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2002035188 A1 20020321 US 2001-909067 20010719

PRAI US 2000-219667P P 20000721

AB The **Fe-ore** powders and similar concs. having reactive impurities are pelletized using a low content of polymeric binder, after pretreatment with additives for chelating the interfering impurities. The binder system is typically based on pretreatment of the ore conc. with Na citrate to chelate the impurities, followed by wet pelletizing with a polymeric binder as an alkali metal salt of CM-cellulose. The **Fe-ore** conc. powder is optionally pretreated with Na<sub>2</sub>CO<sub>3</sub> at 0.005-0.07% and a caustic at 0.005-0.05% for improved bonding with Na citrate promoter at 0.005-0.1% and the Na-CMC binder at 0.005-0.2%. The inactivated impurities are typically S, Mn, Fe(OH)<sub>2</sub>, Ca<sup>2+</sup> ions, and/or Mg<sup>2+</sup> ions. The hematite ore conc. pelletized at .apprx.8% moisture with 0.1% Na citrate and 0.02% CM-cellulose type binder showed the dry crush strength of 25.2 lbs, vs. .apprx.16 lbs with 0.3% bentonite as inorg. binder.

L5 ANSWER 2 OF 20 CAPLUS COPYRIGHT 2002 ACS

AN 2001:599535 CAPLUS

DN 135:290391

TI Comparative studies on the flocculation characteristics of polyacrylamide grafted **guar** gum and hydroxypropyl **guar** gum

AU Nayak, B. R.; Singh, R. P.

CS Materials Science Centre, IIT, Kharagpur, 721302, India

SO Polymer International (2001), 50(8), 875-884

CODEN: PLYIEI; ISSN: 0959-8103

PB John Wiley & Sons Ltd.

DT Journal

LA English

AB The synthesis of 2 polysaccharide-based graft copolymers with acrylamide, i.e., **guar** gum-grafted polyacrylamide (I) and hydroxypropyl **guar** gum-grafted polyacrylamide (II) is described. The graft copolymers were characterized by viscometry, IR spectroscopy, and thermal anal. The flocculation characteristics of the graft copolymers were studied in kaolin, **Fe ore**, and silica suspensions. For the base polysaccharides, **guar** gum (III) and hydroxypropyl **guar** gum (IV), it was obsd. that III exhibited better performance than IV in all 3 suspensions. For the graft copolymers, II showed better performance than I. The flocculation characteristics of the best performing graft copolymer II were compared with various com. available flocculants in the 3 suspensions mentioned above.

RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 20 CAPLUS COPYRIGHT 2002 ACS

AN 2001:447592 CAPLUS

DN 135:181600

TI Development of graft copolymer flocculating agents based on hydroxypropyl **guar** gum and acrylamide

AU Nayak, B. R.; Singh, R. P.

CS Materials Science Centre, Indian Institute of Technology, Kharagpur, 721302, India

SO Journal of Applied Polymer Science (2001), 81(7), 1776-1785

CODEN: JAPNAB; ISSN: 0021-8995

PB John Wiley & Sons, Inc.

DT Journal

LA English

AB Graft copolymers of hydroxypropyl **guar** gum (HPG) with polyacrylamide (PAM) have been synthesized using a ceric ion-induced soln. polymn. technique at 28.degree.C. Six graft copolymers have been synthesized with variation in the no. and length of grafted PAM chains. The graft copolymers were characterized by viscometry, IR (IR)

spectroscopy, and thermal studies. Flocculation jar tests were carried out in 0.25 wt % kaolin, **iron ore**, and silica suspensions. Among the series of graft copolymers, the one with fewest but longest PAM chains shows the better performance. The flocculation characteristics of this best performing graft copolymer are compared with various com. available flocculants in the three suspensions.

RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 20 CAPLUS COPYRIGHT 2002 ACS

AN 2000:381391 CAPLUS

DN 133:20417

TI Temporary binder with water-soluble polymers for pelletizing of **iron-ore** powder and similar materials

IN Schmitt, James

PA Akzo Nobel N.V., Neth.

SO U.S., 9 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6071325	A	20000606	US 1997-895380	19970716
AB	The ore powders and similar materials for pelletizing are premixed with: (a) 0.01-1% water-sol. polymers as the temporary binder typically based on <b>guar</b> , starch, or cellulose; (b) 0.004-0.15% caustic addn. as hardener, esp. as alkali or alk.-earth hydroxides; and (c) optional small amt. of weak acid selected from soda ash and/or Na citrate. The typical binder system suitable for powd. <b>Fe-ore</b> conc. contains Na salt of CM-cellulose and NaOH, replacing conventional bentonite as the inorg. binder contributing to increased slag vol. in smelting. The green <b>Fe-ore</b> pellets of .apprx.0.5 in. size with .apprx.10% moisture show the optimized crush strength of .apprx.10 lbs/pellet, vs. only .apprx.5 lbs/pellet without the NaOH hardener. The green pellets are typically heated slowly for drying, and then are fired at .gtoreq.2200.degree. F for hardening.				

RE.CNT 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 20 CAPLUS COPYRIGHT 2002 ACS

AN 1997:735804 CAPLUS

DN 128:24557

TI Ore pelletization

IN Field, John R.; Allen, Anthony P.

PA Allied Colloids Ltd., UK

SO U.S., 4 pp., Cont.-in-part of U.S. Ser. No. 190,114, abandoned.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5685893	A	19971111	US 1995-540166	19951006
PRAI	GB 1991-16698	A	19910802		
	US 1994-190114	B2	19940202		
AB	<b>Iron ore</b> particles are mixed with polymeric binder particles in the presence of moisture, and pelletized, whereas the binders are mixts. of ionic synthetic water-sol. polymers, such as copolymer of acrylamide and sodium acrylate having intrinsic viscosity 2-16 dL/g, and a larger amt. of <b>guar</b> gum.				

L5 ANSWER 6 OF 20 CAPLUS COPYRIGHT 2002 ACS

AN 1996:452649 CAPLUS

DN 125:147528

TI Polymeric depressant with acrylamide for separation of silicate gangue in froth flotation of sulfide ores

IN Nagaraj, D. R.; Wang, Samuel S.  
PA Cytec Technology Corp., USA  
SO U.S., 10 pp.  
CODEN: USXXAM  
DT Patent  
LA English  
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5531330	A	19960702	US 1995-474805	19950607
	CA 2222996	AA	19961219	CA 1996-2222996	19960507
	WO 9640438	A1	19961219	WO 1996-US6477	19960507
	W: AL, AM, AU, BB, BG, BR, BY, CA, CN, CZ, EE, GE, HU, IS, JP, KG, KP, KR, KZ, LK, LR, LS, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SD, SG, SI, SK, TJ, TM, TT, UA, UZ, VN				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9657331	A1	19961230	AU 1996-57331	19960507
	AU 701180	B2	19990121		
	EP 830208	A1	19980325	EP 1996-915589	19960507
	EP 830208	B1	20000726		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	CN 1186456	A	19980701	CN 1996-194444	19960507
	BR 9608582	A	19981229	BR 1996-8582	19960507
	RU 2139147	C1	19991010	RU 1998-100189	19960507
	AT 194929	E	20000815	AT 1996-915589	19960507
	ES 2150672	T3	20001201	ES 1996-915589	19960507
	PL 180674	B1	20010330	PL 1996-323856	19960507
PRAI	US 1995-474805	A	19950607		
	US 1995-475160	A	19950607		
	WO 1996-US6477	W	19960507		

AB The depressant for silicates in flotation of sulfide ores is a polymer (or a mixt. of polymers) with: (a) the acrylamides at >35 mol%; (b) monoethylenically unsatd. monomers with hydroxy group, at 1-50 mol%; and (c) monoethylenically unsatd. monomers with anionic group, at 0-50 mol%. The sulfide ore slurry is conditioned with the depressant in the presence of a sulfide collector and a frother, followed by froth flotation. The typical depressant is acrylamide-dihydroxypropyl methacrylate-acrylic acid copolymer of 80-10-10 mol% and 7000 mol. wt., and is suitable for the froth flotation of ore feed contg. 2.25 wt.% Ni and 28 wt.% MgO as a silicate. The Mg silicate recovery at 130 ppm depressant was decreased to 18.6 wt.% MgO for increased Ni recovery and conc. grade, vs. 21.5 wt.% with guar gum as conventional depressant at 175 ppm, or 27.0 wt.% without a depressant.

L5 ANSWER 7 OF 20 CAPLUS COPYRIGHT 2002 ACS  
AN 1994:303968 CAPLUS  
DN 120:303968  
TI Water-soluble polymeric binders with a caustic for pelletizing of powdered ores  
IN Schmitt, James  
PA AKZO N. V., Neth.  
SO PCT Int. Appl., 27 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9403648	A1	19940217	WO 1992-US6551	19920806
	W: AU, BR, CA, NO, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE				
	EP 656072	A1	19950607	EP 1992-917701	19920806
	EP 656072	B1	20000315		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE				

BR 9207150	A	1992-01-12	BR 1992-7150	1992-01-12
AU 685385	B2	1998-01-22	AU 1992-24067	1992-08-06
AT 190671	E	2000-04-15	AT 1992-917701	1992-08-06
ES 2144422	T3	2000-06-16	ES 1992-917701	1992-08-06
US 5698007	A	1997-12-16	US 1995-373289	1995-01-20
NO 9500401	A	1995-02-03	NO 1995-401	1995-02-03
PRAI BR 1992-7150	A	1992-08-06		
EP 1992-917701	A	1992-08-06		
WO 1992-US6551	W	1992-08-06		

AB The water-sol. binders for agglomeration of powd. ores and similar materials contain: (1) the polymer selected from **guars**, starches, cellulose derivs., and/or similar materials; and (2) the caustic component preferably selected from NaOH, KOH, and/or NH<sub>4</sub>OH. The binder suitable for powd. **Fe ore** contains an alkali metal salt of CM-cellulose, and NaOH, optionally with Na<sub>2</sub>CO<sub>3</sub> and/or Na citrate. Thus, powd. **Fe-ore** conc. contg. 10.1-10.5% moisture was pelletized to .apprx.0.5 in. size using tech. CM-cellulose binder at 0.90 lb/ton ore, and NaOH at 0.12-2.4 lb/ton ore. Dry crush strength of the pellets was increased by the addn. of NaOH to a max. of 7.5 lb at 1.2 lb NaOH/ton ore.

L5 ANSWER 8 OF 20 CAPLUS COPYRIGHT 2002 ACS

AN 1994:112398 CAPLUS

DN 120:112398

TI Self-fluxing binder mixture suitable for pelletization of **iron ore** concentrates

IN Panigraphy, Sarat; Legast, Pierre; Lesmerises, Normand

PA Ceram SNA Inc., Can.

SO Can. Pat. Appl., 30 pp.

CODEN: CPXXEB

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CA 2062145	AA	19930903	CA 1992-2062145	19920302
	US 5294250	A	19940315	US 1992-844281	19920302
PRAI	CA 1992-2062145		19920302		

AB The binder mixt. for use in ore pelletizing consists of: (a) 50-98% powd. or fibrous carrier selected from the minerals contg. Mg and/or Ca, and having high sp. surface area; and (b) 2-50% of a natural polysaccharide as water-sol. binder component having high viscosity. The carrier is preferably selected from fibrous forsterite, or powd. olivine, magnesite, calcite, and dolomite. The polysaccharide is a natural gum, starch, pectin, and/or carrageenan. The ore pellets are manufd. with 0.1-5.0% binder mixt., and show good strength in the green, dried, or fired stage. The binder suitable for **Fe-ore** concns. having 8.5% moisture contains .apprx.1% synthetic fibrous forsterite as well as **guar** gum as the polysaccharide.

L5 ANSWER 9 OF 20 CAPLUS COPYRIGHT 2002 ACS

AN 1993:564578 CAPLUS

DN 119:164578

TI Process for ore pelletizing using acidified polymer binders

IN Steeghs, Henricus Renier Gerardus; Schmitt, James John

PA AKZO N. V., Neth.

SO Eur. Pat. Appl., 9 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 541181	A1	19930512	EP 1992-203403	19921106
	EP 541181	B1	19990303		
	R: DE, FR, GB, IT, NL, SE				
	CA 2082128	AA	19930508	CA 1992-2082128	19921104

BR 9204337	A	19930111	BR 1992-4337	19920106
ZA 9208585	A	19930625	ZA 1992-8585	19921106
US 2002108470	A1	20020815	US 2002-67112	20020204
PRAI US 1991-788971	A	19911107		
US 1993-32525	A1	19930315		

AB The powd. ore is blended with moisture, polymer binders, and a weak acid or its salt for improved pelletizing. The binder polymers are selected from **guar**, starch, alginates, pectins, polyacrylamides, polyacrylates, and poly(ethylene oxides). The weak acid is citric, malic, and/or tartaric acid, and is used with the polymer at 0.01-1.0% total binder. The binder system for powd. **Fe ores** is preferably **guar** and citric acid. The salts are preferably those of citric, tartaric, malic fumaric, and/or lactic acids. The moisture content is typically 7-12% based on solids.

L5 ANSWER 10 OF 20 CAPLUS COPYRIGHT 2002 ACS  
AN 1993:172970 CAPLUS

DN 118:172970  
TI Ore pelletization using polymer binders and moisture  
IN Field, John Rodney; Allen, Anthony Peter  
PA Allied Colloids Ltd., UK  
SO PCT Int. Appl., 8 pp.  
CODEN: PIXXD2

DT Patent  
LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9303189	A2	19930218	WO 1992-GB1432	19920803
	WO 9303189	A3	19930318		
	W: AT, AU, BB, BG, BR, CA, CH, CS, DE, DK, ES, FI, GB, HU, JP, KP, KR, LK, LU, MG, MN, MW, NL, NO, PL, RO, RU, SD, SE, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, SN, TD, TG				
	AU 9223802	A1	19930302	AU 1992-23802	19920803
	AU 669852	B2	19960627		
	EP 604452	A1	19940706	EP 1992-916647	19920803
	EP 604452	B1	19980415		
	EP 604452	B2	20010516		
	R: NL, SE				
	JP 06509390	T2	19941020	JP 1992-503410	19920803
	BR 9206327	A	19950411	BR 1992-6327	19920803
PRAI	GB 1991-16698	A	19910802		
	WO 1992-GB1432	A	19920803		

AB Powd. moist ore is mixed with powd. binder blend typically contg. 0.05-0.2% water-sol. natural polymer (esp. **guar** gum) as well as 0.005-0.1% synthetic polymer at (2-30):1 ratio and the mixt. is pelletized and dried for green strength. The synthetic polymer is preferably based on acrylamide with 10-40% Na acrylate. The pelletizing process is suitable for **Fe ores** having particle size <250 .mu.m. The typical binder blend for pelletizing at .apprx.10% moisture and 0.12% total (based on ore) contains 5 parts of **guar** gum and 1 part of 20% anionic polyacrylamide premixed at 1:1 ratio with Na2CO3 for conditioning of hard water. The blended binder shows increased green strength by comparison with the **guar** gum.

L5 ANSWER 11 OF 20 CAPLUS COPYRIGHT 2002 ACS  
AN 1991:587173 CAPLUS

DN 115:187173  
TI Polymer-modified starch binder for pelleting of ore powders  
IN Dingeman, David L.; Skagerberg, William E.  
PA Oriox Technologies, Inc., USA  
SO U.S., 15 pp.  
CODEN: USXXAM

DT Patent  
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5000783	A	19910319	US 1988-225471	19880728
	WO 9205290	A1	19920402	WO 1990-US5466	19900926
	W: CA, US				
	US 5171361	A	19921215	US 1990-592913	19901004
	US 5306327	A	19940426	US 1992-852269	19920519
PRAI	US 1988-225471		19880728		
	WO 1990-US5466		19900926		
AB	Powd. ore-conc. mixts. for pelletizing consist of 80-99.98% ore (including 6-12% moisture), 0.01-10.0% modified native starch, and an effective amt. of water-dispersible polymer to promote smooth pelletizing. The polymer addn. is selected from natural gums, pectins, starch derivs., cellulose derivs., vinyls, and/or acrylics. The mixt. and process are suitable for pelletizing of <b>Fe ores</b> , and decrease the inorg. impurities assocd. with conventional bentonite binders. The native starch is premixed with preferably 0.5-50% of the polymer and partially gelatinized prior to mixing with the ore conc. in pelletizing. The resulting green pellets have an increased surface smoothness, decreased tackiness, and a slower and more uniform growth compared with the starch-bonded ore pellets. Thus, powd. <b>Fe ore</b> contg. 9.5% moisture was pelletized using 0.118% extruded corn starch and 0.029% nonionic acrylamide binder. The green pellets were hardened by drying at 105.degree., and tumbled on an inclined disk app. for abrasion test. The pellet wear loss was only 0.62%, compared with 1.01% using 0.147% starch binder without the modifier.				

L5 ANSWER 12 OF 20 CAPLUS COPYRIGHT 2002 ACS  
AN 1989:460903 CAPLUS  
DN 111:60903  
TI Briquetting process  
IN Goleczka, Joseph; Taylor, Rodney; Kelly, Simon  
PA Coal Industry (Patents) Ltd., UK  
SO Eur. Pat. Appl., 4 pp.  
CODEN: EPXXDW

DT Patent  
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 314322	A2	19890503	EP 1988-309301	19881006
	EP 314322	A3	19890816		
	R: BE, DE, FR				
	GB 2211512	A1	19890705	GB 1988-23443	19881006
	AU 8823707	A1	19890504	AU 1988-23707	19881013
	ZA 8807733	A	19890726	ZA 1988-7733	19881017
	CN 1042175	A	19900516	CN 1988-107460	19881027
	CN 1022845	B	19931124		
PRAI	GB 1987-25252		19871028		

AB Fine coal is cold briquetted with <2 wt.% of a cement, esp., portland cement as a binder. The briquets show an improved initial green strength and shatter index.

L5 ANSWER 13 OF 20 CAPLUS COPYRIGHT 2002 ACS  
AN 1989:409772 CAPLUS  
DN 111:9772  
TI Dispersants for **iron ore** powder-water slurries  
IN Naka, Akihiro; Mayuzumi, Fukunobu  
PA Daiichi Kogyo Seiyaku Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 6 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63267427	A2	19881104	JP 1987-103719	19870427



AB The stability of **iron ore** powder-water slurries during transport or storage can be improved by milling the slurry with 0.01-1.00 wt.%, preferably 0.05-0.5 wt.%, of a dispersant contg. **guar** gum or its derivs., and a water-sol. vinyl polymer. The **guar** gum derivs. are preferably an alkylene oxide adduct or carboxylated compd. of **guar** gum. Thus, a 74 wt.% **iron ore** powder-water slurry was ball-milled with 0.15 wt.% of a dispersant contg. 4:1 wt. ratio **guar** gum/sodium polyacrylate; the mixt. was then stabilized for .gtoreq.24 h and had a viscosity of 1300 cP (at 25.degree.), vs. 2200 cP for a com. dispersant.

L5 ANSWER 14 OF 20 CAPLUS COPYRIGHT 2002 ACS

AN 1988:116349 CAPLUS

DN 108:116349

TI Potential of Jaguar in blast-furnace pellet production

AU Ogbonlowo, D. B.

CS Fed. Univ. Technol., Akure, Nigeria

SO Trans. - Inst. Min. Metall., Sect. C (1987), 96(Dec.), C186-C190

CODEN: TMEMAB; ISSN: 0371-9553

DT Journal

LA English

AB **Guar** gum and **guar** gum derivs. (Jaguar A-40-F, Jaguar A2S, Jaguar HP-11, Jaguar CMHP, and Jaguar C-13) were used as binder in prepn. of **Fe ore** pellets for blast-furnace smelting. High-quality pellets were prepd. with the addn. of .apprx.1% Jaguar to the ore charge and after heat treatment at 252-263.degree.. Replacement of bentonite by the Jaguar product in prepn. of **Fe ore** pellets was considered technol. and economically feasible.

L5 ANSWER 15 OF 20 CAPLUS COPYRIGHT 2002 ACS

AN 1983:76062 CAPLUS

DN 98:76062

TI Low-molecular-weight copolymers and terpolymers as depressants in mineral ore flotation

IN Lim, Sim K.; Goodman, Richard M.

PA American Cyanamid Co. , USA

SO U.S., 6 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4360425	A	19821123	US 1981-301850	19810914
	CA 1182226	A1	19850205	CA 1982-407368	19820715
	IL 66484	A1	19851231	IL 1982-66484	19820805
	JP 58055065	A2	19830401	JP 1982-156894	19820910
	BR 8205305	A	19830816	BR 1982-5305	19820910
	FI 8203164	A	19830315	FI 1982-3164	19820913
	FI 70677	B	19860626		
	FI 70677	C	19861006		
	AU 8288335	A1	19830324	AU 1982-88335	19820913
	AU 552331	B2	19860529		
	ZA 8206708	A	19830727	ZA 1982-6708	19820913
	ES 515669	A1	19840316	ES 1982-515669	19820913
	FR 2512692	A1	19830318	FR 1982-15518	19820914
	FR 2512692	B1	19850719		
PRAI	US 1981-301850		19810914		

AB Low-mol.-wt. copolymers and terpolymers of (meth) acrylamide with (meth) acrylamidoglycolic acid derivs., methylol(meth)acrylamide, and/or (meth)acrylic acid or its NH4 or alkali metal salts are used as depressants in flotation of nonsulfide ores. Selectivity and recovery are improved when these polymers are used with known depressants such as starch, dextrin, **guar** gum, etc. Thus, in flotation of **Fe ore** with an amine collector, 0.3 lb/ton of the reaction product of polyacrylamide with glyoxylic acid, the Fe recovery was 94.3% vs. 93.8% with 1.22 lb dextrin/ton.

L5 ANSWER 16 OF 20 CAPLUS COPYRIGHT 2002 ACS  
 AN 1979:442440 CAPLUS  
 DN 91:42440  
 TI The role of additives in **iron ore** pelletizing  
 AU Clum, J. A.; Heins, R. W.; Tiemann, T. D.  
 CS Dep. Mech. Eng. Mater. Sci., Vanderbilt Univ., Nashville, TN, USA  
 SO Proc., Bienn. Conf. Inst. Briquet. Agglom. (1978), Volume Date 1977, 15,  
 97-100  
 CODEN: PIBABP; ISSN: 0145-8701  
 DT Journal  
 LA English  
 AB Pelletizing of magnetic taconite **Fe ore** was examd.  
 with substandard clay, org. binders (synthetic resin or **guar**  
 gum), and Ca aluminate cement. Upgrading of Wisconsin clay having low  
 Na/Ca ratio was detd. by ion exchange; the treated clay showed adequate  
 pellet bonding at 3% in ore, compared with 1 for com. bentonite clay.  
 Synthetic resins of cellulose type, and **guar** gums, were  
 effective as binders alone or with clay. The Ca aluminate cements  
 required .apprx.15% H2O for balling, compared with .apprx.9 for bentonite,  
 and showed impaired green drop strength.

L5 ANSWER 17 OF 20 CAPLUS COPYRIGHT 2002 ACS  
 AN 1975:88688 CAPLUS  
 DN 82:88688  
 TI Transporting **iron ore** slurries  
 IN Jennings, Harley Y., Jr.  
 PA Chevron Research Co.  
 SO Can., 13 pp.  
 CODEN: CAXXA4  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CA 947796	A1	19740521	CA 1971-114260	19710528
PRAI	US 1970-51383		19700630		

AB Hematite ore is prepd. for pipeline transportation by grinding to 100% <10  
 mesh, 95% <65 mesh, and 70% <325 mesh. The ore is then slurried with H2O  
 at a pulp d. of 20 - 45 vol.%. A dispersant is added, e.g. lignosulfonate  
 at 0.05-0.2 wt.%, ore basis. Also added is an internal lubricant, e.g.  
**guar** gum at 0.05 - 0.2 wt.%, H2O basis. The resulting slurry can  
 be pumped through a pipe at a linear velocity of .gtoreq.8 ft./sec with no  
 dropout of particles. The additives enable the mixt. to hold the coarser  
 particles in suspension, obviating the usual need to grind all the ore to  
 <325 mesh. Higher pulp d. can be used.

L5 ANSWER 18 OF 20 CAPLUS COPYRIGHT 2002 ACS  
 AN 1971:114592 CAPLUS  
 DN 74:114592  
 TI Dephosphorization of the Moncorvo **iron ores** by means  
 of flotation  
 AU Bahr, Albert  
 CS Inst. Aufbereit., Tech. Univ. Clausthal, Clausthal, Ger.  
 SO Erzmetall (1971), 24(1), 12-18  
 CODEN: ERZMAK  
 DT Journal  
 LA German  
 AB The effects of pH, ions (Al<sup>+++</sup>, Fe<sup>++</sup>, Fe<sup>+++</sup>, Ca<sup>++</sup>, Mg<sup>++</sup>, F<sup>-</sup>), and particle  
 size on the flotation of P from Fe-free lazulite with tall oil were examd.  
 The effects of pH, 15-100 g (NaPO3)6/ton, a no. of cationic and anionic  
 collectors (of which F 452, a C12-18 fatty alc. phosphate, was the most  
 selective for P), of Co<sup>++</sup>, Mg<sup>++</sup>, Al<sup>+++</sup>, and F<sup>-</sup>, and of **Guar**  
 flour were detd. on the sepn. of P in the presence of hematite.  
 Regression anal. showed that the amt. of **Guar** flour, the pH, and  
 the amt. of collector had the greatest effects on the flotation process;  
 the addn. of Ca<sup>++</sup> and oleic acid was beneficial. In this way, the P

content was reduced to 0. from 0.46%).

L5 ANSWER 19 OF 20 CAPLUS COPYRIGHT 2002 ACS  
AN 1965:8500 CAPLUS  
DN 62:8500  
OREF 62:1505d-e  
TI Low-cost explosives obtained by water addition--slurries  
AU v. Krogh, G. F.  
SO Tidsskr. Kjemi, Bergvesen Met. (1961), 21, 217-20  
From: CZ 1963(15), 6064.  
DT Journal  
LA Norwegian  
AB Properties and applications of explosive slurries (I) are described, which consist of an oxidizing agent, e.g.  $\text{NH}_4\text{NO}_3$ ,  $\text{NaNO}_3$ ,  $\text{NaClO}_3$ , and a sensitizer, e.g. TNT, dispersed in a salt mixt. or by addn. of an aq. salt soln. and a colloidal emulsifier, e.g. **guar** gum, Na carboxymethyl cellulose or alginate. The performance of I is increased by addn. of Al powder. These explosive mixts. are used in stone quarries and **iron ore** mines.

L5 ANSWER 20 OF 20 CAPLUS COPYRIGHT 2002 ACS  
AN 1963:1776 CAPLUS  
DN 58:1776  
OREF 58:262f  
TI Flocculation process  
PA General Mills, Inc.  
SO 3 pp.  
DT Patent  
LA Unavailable

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 906531		19620926	GB	
US		19590826		

PI GB 906531 19620926 GB  
PRAI US 19590826  
AB Fine particles suspended in a liquid are flocculated by the addn. of poly(diallyl ammonium) chloride (I) of degree of polymerization >30. I is effective over a wide range of pH and can be used to clarify brines, in borax production, and in the lime sulfur process. Thus, a dispersion of fines of crude **iron ore** gives a clearer supernatant liquid when 1 cc. of 1% I is added than when 1 cc. of 1% **guar** is used.

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(FILE 'HOME' ENTERED AT 13:46:19 ON 27 AUG 2002)

FILE 'CAPLUS' ENTERED AT 13:46:31 ON 27 AUG 2002

L1 6984 GUAR  
L2 28370 GUAR?  
L3 41537 (IRON OR FE) (2A) ORE?  
L4 63789 CITRIC?  
L5 20 L1 AND L2 AND L3

AN 1978-70470A [39] WPIDS  
TI Transporting **iron ore** slurries by pipeline - with  
organic polymer addn. to give good coarse particle carrying capacity.  
DC A97 M24 Q35  
IN JENNINGS, H Y  
PA\* (CALI) CHEVRON RES CO  
CYC 1  
PI US 4114956 A 19780919 (197839)\*  
PRAI US 1970-51383 19700630; US 1972-282622 19720821; US 1976-655355  
19760205  
AB US 4114956 A UPAB: 19930901

**Iron ore** is transported by pipeline in the form of an  
aq. slurry contg. 20-45 vol. % of ore, to which is added, by wt.. based on  
the ore, 0.02-0.4% of an ionic dispersant and 0.01-0.2% based on the water  
content, of a nonionic organic polymer.

Pref. polymers are polyacrylamide or **guar** gam, with ligno  
sulphonate as dispersant. The ore may be ground so that 100% is -10 mesh,  
95% is -65 mesh, 80% is -200 mesh and 70% is -325 mesh.

The dispersant facilitates transport of increased amts. of very fine  
ore without development of excessive viscosity, while the polymer prevents  
drop out of coarse particles. The cost of uniform fine grinding is  
thereby eliminated.

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(FILE 'HOME' ENTERED AT 13:46:19 ON 27 AUG 2002)

FILE 'CAPLUS' ENTERED AT 13:46:31 ON 27 AUG 2002

L1. 6984 GUAR  
L2 28370 GUAR?  
L3 41537 (IRON OR FE) (2A) ORE?  
L4 63789 CITRIC?  
L5 20 L1 AND L2 AND L3  
SELECT L5 PN 1-

FILE 'WPIDS' ENTERED AT 13:50:28 ON 27 AUG 2002

L6 14 E1-62  
L7 8 L5  
L8 1 L7 NOT L6

d his

(FILE 'HOME' ENTERED AT 14:10:02 ON 27 AUG 2002)

FILE 'CAPLUS' ENTERED AT 14:10:31 ON 27 AUG 2002

L1 28370 GUAR?  
L2 16078 (SODIUM OR NA) (2A)?CITRATE?  
L3 41537 (IRON OR FE) (2A)ORE?  
L4 84867 (CITRIC OR MALIC OR TARTARIC) (2A)ACID  
L5 39 L1 AND L2 AND (L3 OR L4)